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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,521	03/03/2005	Hiroyuki Makino	2830-0175PUS1	6431
2292 7590 05/22/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER HAMO, PATRICK	
			ART UNIT 3746	PAPER NUMBER
			NOTIFICATION DATE 05/22/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

JP

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,521	<b>Applicant(s)</b> MAKINO ET AL.	
	<b>Examiner</b> Patrick Hamo	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>16 Jul 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement filed March 3, 2005 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because reference BA, JP-56-57901 there is not provided a concise explanation of the relevance of this reference. The translated abstract provided does not seem to match the disclosed invention. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3/1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gherner, Pat. No. 4,223,594 in view of Mori et al., Pat No. 4,805,516 and further in view of Takahashi et al., Pat No. 5,950,425.

Gherner discloses a hydraulic motor comprising a casing 2, a rotor 27 rotatably supported in the casing via bearings 13 and 14, and axial piston cylinders 30 arranged

annularly in the rotor surrounding a central axis of the rotor (see fig. 1), the rotor including a first portion 27 and second portion 3, the second portion housing a distributor plate 3.

Gherner does not disclose that the rotor is being rotated by supplying, via a rotary valve, high-temperature, high-pressure steam to an expansion chamber defined between a piston and a cylinder sleeve; characterized in that a heat-insulating space is provided at a position facing the expansion chamber of the rotor, a cutout formed circumferentially in the rotor, an outer peripheral face of the cylinder sleeve being exposed through the cutout, the surrounding of the cutout covered by a heat-insulating cover.

However, Mori teaches an axial air motor with a rotatable cylindrical valve body 71 that supplies high-pressure air to cylinder holes 22 defined between a piston 50 and a sealing sleeve 57 to drive the motor, and circumferentially spaced bores 24 that expose the outer surface of the sleeve, the bores covered and insulated by cylinder block 20. Mori teaches that the axial air motor can be rotated at higher-speeds than a hydraulic motor and that the sealing sleeve aids in reducing friction and ensuring a smooth function (col. 1, ll. 28-44). In regards to the claimed limitation that high-temperature, high-pressure steam is used to drive the rotor, it would have been obvious to one having ordinary skill in the art at the time of the invention that a motor driven by air is likewise capable of being driven by steam.

Furthermore, Takahashi teaches insulating spaces 166 facing the expansion chamber 136 of an internal combustion engine that can be used to either cool or

Art Unit: 3746

insulate the expansion chamber as a means of increasing thermal efficiency (col. 7, ll. 3-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the rotor of Gherner with the axial air motor with cylinder sleeve of Mori in order to achieve higher speed rotation, and further to have modified with the insulating space of Takahashi to increase efficiency.

Claims 2 and 3/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 in view of Ikeda et al., Pat No. 6,231,315.

The references as applied to claim 1 teach the limitations substantially as claimed except for a metal gasket interposed between end faces of the first rotor half and the cylinder sleeve and an end face of the second rotor half.

However, Ikeda teaches the use of a metal gasket 34 interposed between a valve plate 13 and a cylinder block 11 to aid in sealing (col. 4, ll. 10-17).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the references as applied to claim 1 above with the metal gasket of Ikeda to aid in sealing.

### ***Conclusion***

Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented

Art Unit: 3746

claims, patentable over any applied references. A general allegation that the claims 'define a patentable invention' without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, 'The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims.'" Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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